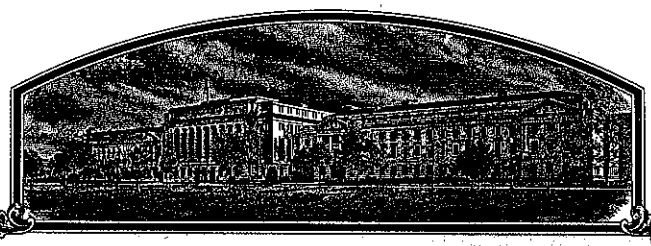
No. 9200035



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Sunderman Breeding Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Sunstar II'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this 31st day of October in the year of our Lord one thousand nine hundred and ninety-four.

Attest:

Kenneth B. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

FORM APPROVED: OMB 0581-0055, Expires 1/31/91

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) *(as it is to appear on the Certificate)*
Sunderman Breeding Inc.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO.
SDM 2

3. VARIETY NAME
Sunstar II

4. ADDRESS *(street and no. or R.F.D. no., city, state, and ZIP)*
3754 North 2700 East
Twin Falls, ID 83301

5. PHONE *(Include area code)*
208 733 0902

FOR OFFICIAL USE ONLY

PVPO NUMBER
9200035

FILING
Date: Dec. 9, 1991
Time: ☐ A.M. ☐ P.M.

FEES RECEIVED
Filing and Examination Fee: $2150.00
Date: Dec. 9, 1991
Certificate Fee: $250.00
Date: June 20, 1994

6. GENUS AND SPECIES NAME
Tirticum Aestivum

7. FAMILY NAME *(Botanical)*
Gramineae

8. CROP KIND NAME *(Common Name)*
Sprign Wheat, Common

9. DATE OF DETERMINATION
August 1987

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
Chapter S Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
Idaho

12. DATE OF INCORPORATION
June 25, 1991

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Donald Sunderman
Sunderman Breeding Inc.
3754 N 2700 E
Twin Falls ID 83301
PHONE *(Include area code)*:

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow INSTRUCTIONS on reverse)*

a. ☒ Exhibit A, Origin and Breeding History of the Variety.
b. ☒ Exhibit B, Novelty Statement.
c. ☒ Exhibit C, Objective Description of Variety.
d. ☒ Exhibit D, Additional Description of Variety.
e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.
f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office Nov 26, 1991
g. ☒ Filing and Examination Fee ($2,150) made payable to "Treasurer of the United States."

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See section 83(a) of the Plant Variety Protection Act.)*
☒ YES *(If "YES," answer items 16 and 17 below)* ☐ NO *(If "NO," skip to item 18 below)*

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☒ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☒ FOUNDATION ☒ REGISTERED ☒ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ YES *(If "YES," through* ☐ Plant Variety Protection Act ☐ Patent Act. Give date: _____ .)
☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☐ YES (If "YES," give names of countries and dates)
☒ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT *(Owner(s))*	CAPACITY OR TITLE	DATE
Donald W. Sunderman	President	Nov 26, 1991
SIGNATURE OF APPLICANT *(Owner(s))*	CAPACITY OR TITLE	DATE

14A. Exhibit A:

9200035

WHEAT

'Sunstar II'

Pedigree: Sunstar II was selected as one of three off type plants found among plants of Western Plant Breeders 906 R that were being used as parents in the 1987 Sunderman crossing plot. The original seed of 906 R was obtained from a lot that had been used as a standard in yield trials for at least 8 years. Sunstar II apparently resulted from an outcross of 906 R with one ot the other selections in the trial. Sunstar II has been stable through 5 generations of selfing and during seed increase. Tall off types appear approximately 1:15,000.

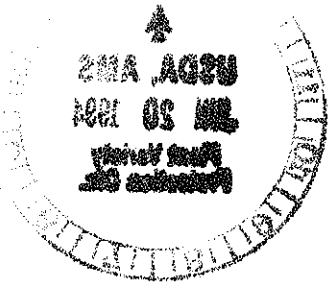
9200035

14B Exhibit B. Novelty Statement

'Sunstar II' is most similar to 'Western Plant Breeders 906R and 'WPB 926'. It differs from them and most other western hard red spring wheats in that it has a blue-green plant color and waxy bloom at the boot stage and the others do not. The erect twisted flag leaf also distinguishes Sunstar II from the two Western Plant Breeders varieties and from 'Probrand 751'. Glumes of Sunstar II are very tight which makes it moderately hard threshing and very resistant to shattering. WPB 906R is very susceptible to shattering and WPB 926 is moderately susceptible to shattering. Sunstar II is similar to one day later in heading than WPB 906R and WPB 926 but is 4 to 6 days later in maturity.

Recent tests for high molecular weight glutenin alleles show that WPB 906R has 2* on the A genome, 17+18 on the B genome, and 5+10 on the D genome. Sunstar II has 2* on A, 7+8/17+18 on B and 5+10 on D.

'Sunstar I', developed by Sunderman Breeding Inc., which is almost identical to Sunstar II, was never released for commercial production.



FORM APPROVED: OMB NO. 0581-0066

EXHIBIT C (Wheat)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
COMMODITIES SCIENTIFIC SUPPORT DIVISION
BELTSVILLE, MARYLAND 20705

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*TRITICUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
Sunderman Breeding Inc.

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)
3754 North 2700 East
Twin Falls Idaho 83301

FOR OFFICIAL USE ONLY

PVPO NUMBER
9200035

VARIETY NAME OR TEMPORARY DESIGNATION

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (*e.g.* [0][8][9] *or* [0][9]) when number is either 99 or less or 9 or less.

1. KIND:

[1] 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

[1] 1 = SPRING 2 = WINTER 3 = OTHER (*Specify*) _____ [2] 1 = SOFT 2 = HARD 3 = OTHER (*Specify*) _____

[2] 1 = WHITE 2 = RED 3 = OTHER (*Specify*) _____

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

[0][7][0] FIRST FLOWERING [0][8][3] LAST FLOWERING

4. MATURITY (*50% Flowering*):

[0][5] NO. OF DAYS *EARLIER* THAN ..... [3] 1 = ARTHUR 2 = SCOUT 3 = CHRIS

[0][4] NO. OF DAYS *LATER* THAN ..... [7] 4 = LEMHI 5 = NUGAINES 6 = LEEDS
7= Western Plant Breeders 906 R

5. PLANT HEIGHT (*From soil level to top of head*):

[0][8][2] CM. HIGH

2.5 cm shorter than 906 R under heavy fertility, Similar in height under normal fertility.

[ ][ ] CM. TALLER THAN ..... [ ] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS

[1][7] CM. SHORTER THAN ..... [3]

6. PLANT COLOR AT BOOTING (*See reverse*):

[3] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHER COLOR:

[1] 1 = YELLOW 2 = PURPLE

8. STEM:

[1] Anthocyanin: 1 = ABSENT 2 = PRESENT

[2] Waxy bloom: 1 = ABSENT 2 = PRESENT

[2] Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT

[1] Internodes: 1 = HOLLOW 2 = SOLID

[0][3] NO. OF NODES (*Originating from node above ground*)

[1][6] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

[1] Anthocyanin: 1 = ABSENT 2 = PRESENT

[1] Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

[1] Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (*Specify*): _____

[2] Flag leaf: 1 = NOT TWISTED 2 = TWISTED

[1] Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT

[2] Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT

[1][1] MM. LEAF WIDTH (*First leaf below flag leaf*)

[1][8] CM. LEAF LENGTH (*First leaf below flag leaf*):

9200035

11. HEAD:

[1] Density: 1 = LAX 2 = DENSE

[2] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) _____

[4] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

[2] Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

[1][0] CM. LENGTH [1][2] MM. WIDTH

12. GLUMES AT MATURITY:

[3] Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.)

[3] Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

[2] Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

[3] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

[1] 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

[1] 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

[3] 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

[1] Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

[2] Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

[1] Brush: 1 = NOT COLLARED 2 = COLLARED

[ ] Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

[3] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

[0][7] MM. LENGTH [0][4] MM. WIDTH [4][7] GM. PER 1000 SEEDS

17. SEED CREASE:

[1] Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

[3] Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] STEM RUST (Races) _____

[2] LEAF RUST (Races) prevalent

[2] STRIPE RUST (Races) Prevallent

[0] LOOSE SMUT

[0] POWDERY MILDEW

[0] BUNT

[ ] OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] SAWFLY

[0] APHID (Bydv.)

[0] GREEN BUG

[0] CEREAL LEAF BEETLE

[0] OTHER (Specify) _____

HESSIAN FLY RACES: [ ] GP [ ] A [ ] B [ ] C [ ] D [ ] E [ ] F [1] G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	WPB 926	Seed size	Nomad
Leaf size	WPB 926	Seed shape	
Leaf color	Penawawa	Coleoptile elongation	
Leaf carriage	Probrand 751	Seedling pigmentation	

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L.W. Briggle and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.

(b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

14 D. Exhibit D. Additional Description of 'Sunstar II'

'Sunstar II' is a common hard red spring wheat Triticum aestivum L.

Under Idaho conditions Sunstar II is similar in flowering date with 'WPB 906R' and 'WPB 926' but is normally 2 to 3 days earlier than 'Pinacle' and 'Probrand 751' and 8 days earlier than 'Vandal'. The average flowering date at Aberdeen Idaho has been June 16. Last flowering date may be as many as 13 days later.

Sunstar II has averaged 82 cm in height, but may vary from 75 to 90 depending upon the year and fertility level. Straw of Sunstar II is very stiff and the variety has not lodged at production levels of up to 8,400 lbs per acre.

Leaves are dark green on young plants and blue green at booting. Flag leaves are relatively small, erect and twisted. The flag leaf sheath has a moderately heavy waxy bloom.

Spikes are middense, clavate, and awned and are yellow and erect at maturity. Spike width and length average 12 mm and 10 cm, respectively under ideal conditions.

The glumes of Sunstar II are tightly attached to the rachis. Under irrigated conditions, they are long and wide with oblique, midwide shoulders. Beaks are obtuse and 2 to 5 mm long.

Kernels of Sunstar II are red and ovate in shape with rounded cheeks and a moderately deep crease. The brush is midsized and midlong. Kernels grown from plants grown under irrigation average 7 mm long and 4 mm wide with an average kernel weight of 47 g per thousand.

Sunstar II has been resistant to stripe rust and to the prevalant races of leaf rust.

Under average irrigated growing conditions, Sunstar II produces yields similar to those of Pondera, WPB 906 R, WPB 926 and Copper. With high fertility it has outyielded the other varieties by 900 lbs per acre. Test weight of Sunstar II is slightly better that those of other commercilly grown varieties. Milling and baking quality of Sunstar II is equal to or better than that of other varieties.

9200035

Hard red spring wheats submitted by Don Sunderman. 1990 crop

Sample Number	Variety	Test Weight	Bu Yield	Sample Size, lbs.	
Klassen Plots, Protein between 12.5 and 13.5%					
1	WPB 906 R	59.8	120.1	10	
2	Sunstar I	62.8	128.8	10	
3	SDM 2	61.8	133.3	10	Sunstar II
4	Probrand 751	61.3	124.9	10	
5	Nomad	62.7	135.7	10	
Duffin Plots Protein between 13 and 14.5%					
6	906 R	61.1	101.8	5.6	
7	Sunstar I	63.3	112.2	7.8	
8	Pinacle	62.8	114.0	9.0	
9	Pondera	62.1	102.7	4.1	
10	SDM 2	61.8	119.0	6.3	Sunstar II

9200035

CEREAL FOODS PROCESSORS
WESTERN REGIONAL LABORATORY
EXPERIMENTAL WHEAT REPORT

DATE 10/30/90

SOURCE DON SUNDERMAN. #1 WPB 906R IDAHO HRS

WHEAT

MOISTURE	9.7
PROTEIN	13.7/13.0
TEST WEIGHT	60.4

FLOUR

MOISTURE	14.0
ASH	.414
PROTEIN	11.55

FARINOGRAM

ABSORPTION	60.3
ARRIVAL	1.6
PEAK	5.9
STABILITY	11.0
MTI	50

BAKE TEST

ABSORPTION	66
MIX TIME	6 MINUTES
LOAF VOLUME	3225 CC
INTERIOR	OPEN
REMARKS	VERY EXTENSIBLE. LOW TOLERANCE TO MIX STICKY AND STRINGY DOUGH.

9200035

CEREAL FOODS PROCESSORS
WESTERN REGIONAL LABORATORY
EXPERIMENTAL WHEAT REPORT

DATE 10/30/90

SOURCE DON SUNDERMAN #2 SUNSTAR I IDAHO HRS.

WHEAT

MOISTURE	9.8
PROTEIN	13/15/12.55
TEST WEIGHT	63.2

FLOUR

MOISTURE	14.4
ASH	.384
PROTEIN	11.35

FARINOGRAM

ABSORPTION	60.1
ARRIVAL	2.4
PEAK	6.3
STABILITY	9.0
MTI	50

BAKE TEST

ABSORPTION	65
MIX TIME	5 MINUTES
LOAF VOLUME	3175 CC
INTERIOR	MODERATELY OPEN
REMARKS	EXTENSIBLE SLACK DOUGH. LOW MIXING TOLERANCE.

9200035

CEREAL FOODS PROCESSORS
WESTERN REGIONAL LABORATORY
EXPERIMENTAL WHEAT REPORT

DATE 10/30/90

SOURCE DON SUNDERMAN #3 SDM 2 IDAHO HRS. Sunstar II

WHEAT

MOISTURE	9.6
PROTEIN	12.85/12.20
TEST WEIGHT	62.3

FLOUR

MOISTURE	14.5
ASH	.392
PROTEIN	10.85

FARINOGRAM

ABSORPTION	58.1
ARRIVAL	1.6
PEAK	3.1
STABILITY	8.0
MTI	30

BAKE TEST

ABSORPTION	66
MIX TIME	5 MINUTES
LOAF VOLUME	3225
INTERIOR	OPEN
REMARKS	EXTREMELY WEAK SLACK DOUGH. VERY LOW TOLERANCE TO MIXING.

9200035

CEREAL FOODS PROCESSORS
WESTERN REGIONAL LABORATORY
EXPERIMENTAL WHEAT REPORT

DATE 10/30/90

SOURCE DON SUNDERMAN #4 PROBRAND 751 IDAHO HRS.

WHEAT

MOISTURE	9.4
PROTEIN	12.75/12.10
TEST WEIGHT	61.2

FLOUR

MOISTURE	14.4
ASH	.406
PROTEIN	11.05

FARINOGRAM

ABSORPTION	57.2
ARRIVAL	1.9
PEAK	5.8
STABILITY	9.1
MTI	70

BAKE TEST

ABSORPTION	62
MIX TIME	4 MINUTES
LOAF VOLUME	3300 CC
INTERIOR	MODERATELY OPEN
REMARKS	MAXIMUM DEVELOPMENT AT 4 MINUTES. OVER-MIXED PAST 4 MINUTES.

11

9200035

CEREAL FOODS PROCESSORS
WESTERN REGIONAL LABORATORY
EXPERIMENTAL WHEAT REPORT

DATE 10/30/90

SOURCE DON SUNDERMAN #5 NOMAD IDAHO HRS.

WHEAT

MOISTURE	9.4
PROTEIN	12.75/12.1
TEST WEIGHT	62.6

FLOUR

MOISTURE	14.4
ASH	.43
PROTEIN	10.5

FARINOGRAM

ABSORPTION	61.0
ARRIVAL	2.2
PEAK	5.4
STABILITY	6.4
MTI	100

BAKE TEST

ABSORPTION	66
MIX TIME	3
LOAF VOLUME	2275 CC
INTERIOR	VERY OPEN
REMARKS	BAKER COMMENTS. "WEAKEST FLOUR I'VE SEEN. COMPLETELY BROKEN DOWN."

920035

CEREAL FOODS PROCESSORS
WESTERN REGIONAL LABORATORY
EXPERIMENTAL WHEAT REPORT

DATE 10/30/90

SOURCE DON SUNDERMAN #6 906R IDAHO HRS.

WHEAT

MOISTURE	9.4
PROTEIN	14.7/13.8
TEST WEIGHT	61.7

FLOUR

MOISTURE	14.2
ASH	.406
PROTEIN	12.25

FARINOGRAM

ABSORPTION	61.5
ARRIVAL	1.7
PEAK	6.2
STABILITY	12.0
MTI	40

BAKE TEST

ABSORPTION	65
MIX TIME	5 MINUTES
LOAF VOLUME	3350 CC
INTERIOR	OPEN
REMARKS	EXTENSIBLE WITH LOW MIXING TOLERANCE.

920035

CEREAL FOODS PROCESSORS
WESTERN REGIONAL LABORATORY
EXPERIMENTAL WHEAT REPORT

DATE 10/30/90

SOURCE DON SUNDERMAN #7 SUNSTAR I IDAHO HRS.

WHEAT

MOISTURE	10.2
PROTEIN	13.4/12.85
TEST WEIGHT	63.7

FLOUR

MOISTURE	14.4
ASH	.378
PROTEIN	12.0

FARINOGRAM

ABSORPTION	60.6
ARRIVAL	2.7
PEAK	7.0
STABILITY	12.8
MTI	40

BAKE TEST

ABSORPTION	65
MIX TIME	5 MINUTES
LOAF VOLUME	3350 CC
INTERIOR	OPEN
REMARKS	VERY EXTENSIBLE DOUGH WITH SOME MIXING TOLERNACE.

9200035

CEREAL FOODS PROCESSORS
WESTERN REGIONAL LABORATORY
EXPERIMENTAL WHEAT REPORT

DATE 10/30/90

SOURCE DON SUNDERMAN #8 PINACLE IDAHO HRS.

WHEAT

MOISTURE	9.4
PROTEIN	14.05/13.35
TEST WEIGHT	62.6

FLOUR

MOISTURE	14.4
ASH	.406
PROTEIN	11.7

FARINOGRAM

ABSORPTION	62.1
ARRIVAL	2.1
PEAK	5.4
STABILITY	7.2
MTI	90

BAKE TEST

ABSORPTION	66
MIX TIME	2 MINUTES
LOAF VOLUME	3100 CC
INTERIOR	OPEN
REMARKS	VERY WEAK. LOW TOLERANCE AT 2 MINUTES.

920035

CEREAL FOODS PROCESSORS
WESTERN REGIONAL LABORATORY
EXPERIMENTAL WHEAT REPORT

DATE 10/30/90

SOURCE DON SUNDERMAN #9 PONDERA IDAHO HRS.

WHEAT

MOISTURE	9.5
PROTEIN	14.6/13.9
TEST WEIGHT	62.2

FLOUR

MOISTURE	14.4
ASH	.394
PROTEIN	12.1

FARINOGRAM

ABSORPTION	62.8
ARRIVAL	2.2
PEAK	5.5
STABILITY	10.5
MTI	40

BAKE TEST

ABSORPTION	
MIX TIME	
LOAF VOLUME	
INTERIOR	
REMARKS	NOT ENOUGH WHEAT FOR BAKE.

920035

CEREAL FOODS PROCESSORS
WESTERN REGIONAL LABORATORY
EXPERIMENTAL WHEAT REPORT

DATE 10/30/90

SOURCE DON SUNDERMAN #10. SDM 2 IDAHO HRS. Sunstar II

WHEAT

MOISTURE	9.8
PROTEIN	13.9/13.25
TEST WEIGHT	62.5

FLOUR

MOISTURE	14.4
ASH	.380
PROTEIN	11.8

FARINOGRAM

ABSORPTION	60.9
ARRIVAL	2.3
PEAK	6.7
STABILITY	11.8
MTI	40

BAKE TEST

ABSORPTION	66
MIX TIME	4 MINUTES
LOAF VOLUME	3375 CC
INTERIOR	OPEM
REMARKS	WEAK WITH LOW MIXING TOLERANCE.

1991 Spring Wheat: Group 117, Commercial Nursery, Ietonia - ABERDEEN LAB. 91-117

LAB NUMBER	ENTRY #	VARIETY	FLOUR PROTEIN (%,14%mb)	FLOUR YIELD 1/ (%)	MIXOGRAPH DATA PEAK (min)	HT (cm)	TOL (deg)	ABS (%)	MIX TIME (min)	TEST BAKE DATA DOUGH TYPE (0-7)	BAKE ABS. (14%mb)	LOAF VOL. (cc)	EXT. GRADE (0-5)	INT. GRADE (0-5)	COMMENTS 2/
9106202	293	Vandal	12.7	69.4	3.9	6.4	73	66	3.5	7	63	825	2.0	1.5	
9106203	294	PH986-61	12.1	71.7	3.9	6.1	74	66	3.4	7	63	905	3.5	2.5	
9106204	295	Sunstar I	12.7	74.9	2.4	6.9	63	65	2.6	7	62	875	3.0	2.5	
9106205	296	Sunstar II	12.8	74.2	2.5	6.6	64	65	2.9	7	62	880	2.5	2.5	
9106206	297	Pinacle	11.4	69.7	1.7	5.5	65	65	1.8	6	62	790	2.0	1.5	
9106207	299	Rick	12.7	71.1	2.6	5.6	76	65	2.2	6	62	810	2.0	2.5	T
9106189	279	Copper	12.1	74.1	2.4	6.2	69	66	2.6	6	63	895	2.5	2.5	T
9106190	280	Pondera	12.4	72.4	2.0	6.5	68	66	2.3	7	63	955	3.5	3.5	
9106191	281	WPB 906R	11.9	72.5	2.8	6.1	75	65	2.6	7	62	925	3.0	2.5	T
9106192	282	WPB 926	11.9	72.4	2.9	6.2	70	65	3.0	6	62	920	2.5	3.0	T
9106193	283	Probrand	10.4	73.7	3.0	5.5	76	64	3.0	5	61	730	1.5	2.0	
9106194	284	BR 5738	11.4	70.0	2.7	5.9	78	64	2.9	7	61	910	1.5	2.0	WSB
9106195	285	BR5702	10.8	70.6	4.6	6.3	76	64	4.4	7	61	965	3.5	2.5	
9106196	286	BR8614	12.3	71.1	3.2	6.5	72	68	3.6	6	65	910	1.5	2.0	WSB
9106197	288	Bronze C	12.2	73.0	3.2	6.8	72	65	4.2	7	62	1000	2.0	2.5	WSB
9106198	289	Fremont	11.8	71.7	2.3	6.4	73	65	2.9	7	62	845	2.5	2.5	T
9106199	290	Nomad	11.8	69.4	2.0	6.0	63	65	2.0	7	62	790	2.0	2.0	
9106200	291	IR983-23	11.8	70.4	2.8	6.6	67	65	2.7	6	62	945	3.0	2.0	S.C.
9106201	292	WPB Expr	12.2	73.0	1.9	6.6	68	65	2.0	7	62	865	2.5	2.0	T

1/ Sunstar II has excellent milling flour yield. Add 1% to flour protein to estimate grain protein.

2/ T= tacky bread dough

9200035

1990

WHEAT YLD. LAB

1990 Commercial Nursery, Group 019 Aberdeen

HRS- Mill, Mixo, and Bake; SWS -Mill, Ba = wg

Lab No	Entry no	Class	Variety	Flr pro 14% mb	Flr YLD.	Ixograph data Peak	Ht	Tol	Abs	Test Bake Data Mix Time	Do Type	Abs 4%m	L.V. cc	Ext.	Int	Comments Corrected loaf
9006033	301	DUR	WestBredLake	wg 15.0	-	-	-	-	-	-	-	-	-	-	-	
9006034	302	DUR	WPB 881	wg 15.6	-	-	-	-	-	-	-	-	-	-	-	
9006035	303	DUR	Pendur	wg 17.5	-	-	-	-	-	-	-	-	-	-	-	
9006036	304	DUR	DUREX	wg 15.5	-	-	-	-	-	-	-	-	-	-	-	
9006037	305	DUR	UC000686	wg 15.0	-	-	-	-	-	-	-	-	-	-	-	
9006038	306	DUR	D5573	wg 15.5	-	-	-	-	-	-	-	-	-	-	-	
9006039	307	DUR	D5171-1	wg 16.5	-	-	-	-	-	-	-	-	-	-	-	
123.1 9006040	308	HR	Copper	12.0	67.4	2.4	6.9	64	65	2.6	6	62	920	3.0	3.0	983
114.6 9006041	309	HR	Pondera	12.6	65.1	1.6	7.4	64	64	1.8	7	61	1075	3.5	2.5	1074
117.5 9006042	310	HR	WPB 906R	12.9	65.1	2.8	7.0	65	65	2.9	6	62	1010	3.0	2.5	1005
109.9 9006043	311	HR	WPB 926	10.0	65.4	2.7	7.0	64	65	2.7	7	62	1055	3.0	3.0	
129.2 9006044	312	HR	Probrand 751	11.9	68.8	2.2	6.9	58	65	2.7	6	62	870	4.0	2.0	
9006045	313	HR	BD 5738	13.3	63.4	2.1	7.7	64	65	2.5	7	62	1045	4.0	2.0	
9006046	314	HR	Yecora Rojo	13.4	66.1	3.1	7.6	55	65	3.1	7	62	1065	3.5	1.5	
102.0 9006047	315	HR	Kodiak	12.7	65.6	3.1	7.4	57	64	3.0	7	61	960	2.5	2.5	
100.9 9006048	316	HR	Bronze Chief	14.3	66.5	2.2	7.8	54	65	2.7	7	62	1090	4.0	2.5	
109.4 9006049	317	HR	Fremont	13.3	64.5	3.0	7.5	59	65	2.7	7	62	1020	4.0	2.5	
121.6 9006050	318	HR	Nomad	12.0	62.5	1.8	6.4	51	64	1.9	7	61	890	3.5	2.0	
9006051	319	HR	IR983-239	12.7	62.7	2.7	7.0	67	65	2.7	7	62	1040	3.5	2.0	

V yield data on varieties tested. The higher yield of Sunstar II probably resulted in the lower protein.

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1990 Commercial Nursery, Group 019 Aberdeen

HBS- Mill, Mixo, and Bake; SWS -Mill, Ba = wg

Lab No	Entry no	Work class	Variety	Flr pro 14% mb	FLR. YLD.	Ixograph data Peak	Ht	Tol	Abs	Test Bake Data Mix Time	Do Type	Abs 4%m	L.V. cc	Ext.	Int	Comments Corrected loaf vol
9006052	320	HR	DA984-034	12.9	65.8	2.3	7.4	55	64	2.0	6	61	960	3.5	2.0	
9006053	321	HR	100341	13.5	64.3	2.5	7.6	48	64	2.1	7	61	1020	4.0	2.0	
9006054	322	HR	BZ 985-321	11.5	61.8	2.0	6.7	59	64	2.0	6	61	950	2.5	2.0	
9006055	323	HR	BR5901	12.4	64.6	2.3	7.7	55	64	2.3	7	61	985	2.0	2.0	
9006056	324	HR	SUNSTAR I	13.8	69.1	2.2	8.1	54	65	2.7	6	62	1045	2.5	2.0	
9006057	325	HR	SUNSTAR II	12.1	69.2	2.2	7.7	59	64	2.4	6	61	1030	3.0	2.5	
9006058	326	HR	PINACLE	11.7	63.9	2.0	6.8	54	64	2.0	6	61	945	2.5	2.0	1036
9006059	327	HR	HEHALA	12.4	62.1	1.9	7.6	54	64	1.9	7	61	1095	3.5	2.5	1132
9006060	328	HM	KLASIC	12.8	67.8	3.5	7.2	61	65	4.4	7	62	950	3.0	2.0	
9006061	329	HM	JUP/BJY	14.9	57.1	2.3	7.9	61	65	2.3	7	62	935	2.5	2.5	YELLOW
9006062	330	SW	Treasure	9.7	66.1	-	-	-	-	-		-	9.18	*		
9006063	331	SW	Penawawa	10.8	62.5	-	-	-	-	-	-	-	9.02	*	* COOKIE	
9006064	332	SW	BZ-604-12	10.3	64.2	-	-	-	-	-	-	-	9.07	*	DIAMETER	
9006065	333	SW	Sprite	10.7	64.7	-	-	-	-	-	-	-	8.84	*		
9006066	334	SW	Centennial	10.6	65.5	-	-	-	-	-	-	-	9.02	*		
9006067	335	SW	BZ 684-5	10.8	62.8	-	-	-	-	-	-	-	8.87	*		

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NOTE THAT THE SUNSTARS HAVE A HIGHER FLOUR YIELD THAN OTHER VARIETIES

9200035

14E. Exhibit E. State of the basis of Applicant's Ownership

The variety for which Plant Variety Protection is hereby sought was selected by Donald Sunderman ,President of Sunderman Breeding Inc.. Development and testing of the variety was also carried out by him or under his supervision. All rights to the variety are assigned to Sunderman Breeding Inc.